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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,743	10/12/2005	Hiroshi Suda	P28646	5873
7055 7590 01/18/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER CHIESA, RICHARD L	
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			01/18/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

## Office Action Summary

**Application No.**

10/552,743

**Applicant(s)**

SUDA ET AL.

**Examiner**

Richard L. Chiesa

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/12/06 &amp; 10/25/07</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings filed on October 12, 2005 are accepted by the examiner.

### ***Specification***

3. The disclosure is objected to because of the following informalities: (A) The specification fails to indicate that this case is a national stage of International Application No. PCT/JP04/07593 filed on May 26, 2004. (B) The word "spice" (page 7, line 23) should apparently be changed to --species--. (C) The word "describe" (page 15, line 14) should apparently be changed to --described--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicants are advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,873,523 to Gomez et al in view of U.S. Patent No. 3,503,704 to Marks. Gomez et al (note Figure 1) disclose a mist creating process with a pair of electrodes 14, 18, voltage applying unit 16 (note col. 4, lines 30-37), and water supply unit 20, 34 (note col. 4, lines 38-67) creating a mist of charged fine particulate water having a particle size of 3 to 100 nm (note col. 2, line 64 to col. 3, line 31) substantially as claimed. Gomez et al disclose many different compounds that may be used with the water (note col. 9, line 49 to col. 10, line 29) depending upon the specific technological field of application. However, Gomez et al may not explicitly mention the use of radicals in the water. In any case, Marks (note Figures 1-6) teaches the well-known use of sodium hydroxide (i.e. hydroxyl radicals) as well as acidic species with water in a mist creating process (note col. 2, line 29 to col. 3, line 8, and col. 4, lines 27-34) for the purpose of ensuring detoxification of chemical waste material. Consequently, it would have been readily

obvious to one of ordinary skill in the art to employ radicals with the water in the Gomez et al mist creating process in order to facilitate chemical waste neutralization as taught by Marks.

7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gomez et al, taken together with Marks, as applied to claims 4 and 1 respectively above, and further in view of U.S. Patent No. 5,914,454 to Imbaro et al. Gomez et al, taken together with Marks, as described above in paragraph 6, disclose a mist creating process substantially as claimed with the possible exception of an explicit disclosure of a variety of different compounds to be used with water. However, Imbaro et al teach the use of various different compounds to be used with water in a mist creating process for the purpose of enhancing collection of different materials (note col. 2, lines 55-65). Therefore, it would have been obvious to one having ordinary skill in the art to employ different compounds with the water of the Gomez et al and Marks mist producing method in order to facilitate collection of selected constituents as taught by Imbaro et al.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. These references have been cited as art of interest to show other charged droplets and/or mist producing systems.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard L. Chiesa whose telephone number is (571) 272-1154.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane S. Smith, can be reached at (571) 272-1166.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is (571) 272-1700.

Facsimile correspondence must be transmitted through (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard L. Chiesa  
January 15, 2008

*Richard L. Chiesa*

**RICHARD L. CHIESA**  
**PRIMARY EXAMINER**  
**ART UNIT 1797**

*Jan. 15, 2008*